AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. **(Original)** A microelectromechanical system for controlling the temperature of a heat-generating component, comprising:

a magnetic heat sink device;

a temperature sensor; and

control circuitry;

wherein the temperature sensor detects the temperature of the heat-generating component through the heat sink device and feeds the sensed temperature to the control circuitry.

2. **(Original)** The system of claim 1, wherein the heat-generating component comprises a laser.

3. **(Original)** The system of claim 2, wherein the laser comprises a laser diode.

4. **(Original)** The system of claim 1, wherein the control circuitry comprises a processor.

5. **(Original)** The system of claim 1, wherein the control circuitry compares the sensed temperature against a predetermined temperature set point.

6. **(Original)** A method for controlling the temperature of a heat-generating component, comprising:

providing a magnetic heat sink device having a temperature sensor;

detecting the temperature of the heat-generating component through the temperature sensor;

feeding the detected temperature to control circuitry; and

comparing the detected temperature against a predetermined temperature set point.

7. **(Original)** The method of claim 6, wherein the heat-generating component comprises a laser.

8. **(Original)** The method of claim 7, wherein the laser comprises a laser diode.

9. **(Original)** The method of claim 6, further comprising sending a command to the magnetic heat sink device to take more heat out of the heat-generating component when the detected temperature is higher than the temperature set point.

10. **(Original)** The method of claim 6, further comprising sending a command to the magnetic heat sink device to take less heat out of the heat-generating component when the detected temperature is lower than the temperature set point.

11. **(Canceled)**

12. **(Canceled)**

13. **(Canceled)**

14. **(Canceled)**

15. **(Canceled)**

16. **(Canceled)**

17. **(Canceled)**

18. **(Canceled)**

19. **(Canceled)**

20. **(Canceled)**

21. **(New)** The microelectromechanical system of claim 3, further comprising:

a laser system comprising:

a laser mount having a first surface and an opposing second surface; and

the laser diode coupled to the first surface of the laser mount;

an actuator system comprising:

a plurality of actuator plates; and

one or more magnetic components; and

the magnetic heat sink device comprising:

one or more magnetic plates attached to the second surface of the laser mount;

a heat sink material disposed between the laser system and the actuator system, the heat sink material comprising one or more fingers;

wherein the heat sink material attaches to the magnetic plates when a current flows through the actuator plates to provide additional heat sink volume.

22. **(New)** The microelectromechanical system of claim 21, wherein the laser mount comprises a material selected from the group consisting of silicon, brass, and a low CTE lead frame alloy.

23. **(New)** The microelectromechanical system of claim 21, wherein the magnetic plates comprise a permanent magnet.

24. **(New)** The microelectromechanical system of claim 23, wherein the permanent magnet comprises iron.

25. **(New)** The microelectromechanical system of claim 21, wherein the actuator plates comprise a low temperature co-fired ceramic material.

26. **(New)** The microelectromechanical system of claim 21, wherein the fingers comprise silicon coated with a heat-conducting material.

27. **(New)** The microelectromechanical system of claim 26, wherein the heat-conducting material comprises copper.

28. **(New)** The microelectromechanical system of claim 21, wherein the fingers are part of a silicon wafer.

29. **(New)** The microelectromechanical system of claim 21, further comprising a permanent magnetic material on a portion of the one or more fingers.

30. **(New)** The microelectromechanical system of claim 29, wherein the permanent magnetic material comprises SmCo.

31. **(New)** The microelectromechanical system of claim 21, wherein the heat sink material attaches to the magnetic plates when a current flows through the actuator plates to provide additional heat sink volume when the laser diode generates more heat than can be handled by the laser mount alone.

32 **(New)** The microelectromechanical of claim 1, wherein physical heat transfer between the heat-generating component and the magnetic heat sink device is varied at least in part based on the sensed temperature

33. **(New)** The microelectromechanical of claim 1, wherein the physical heat transfer between the heat-generating component and the magnetic heat sink device is varied by varying a contact area between the magnetic heat sink device and the heat-generating component.